

AMENDMENTS TO THE CLAIMS

Claims 1-11 (Cancelled)

Claims 12-14 (Cancel)

15. (Currently Amended) The slurry feeder according to claim ~~14~~21, wherein the polishing apparatus includes turntables, and a said slurry feed pump is provided for each of the turntables.

16. (Currently Amended) ~~The slurry feeder according to claim 15, further comprising:~~
A slurry feeder comprising:
a slurry supply tank for holding slurry at a given concentration;
a slurry feed pipe connected to said slurry supply tank;
a slurry feed pump for pumping the slurry from said slurry supply tank to a polishing apparatus via said slurry feed pipe;

a preparation tank for having prepared therein slurry having the given concentration by mixing and diluting a stock solution of slurry with de-ionized water or a chemical liquid, said preparation tank being in fluid communication with said slurry supply tank so as to supply the slurry having the given concentration from said preparation tank to said slurry supply tank; and
a control system for

(i) suspending operation of said slurry feed pump during a time period when the slurry is not being supplied to the polishing apparatus and the polishing apparatus is performing a polishing operation, and

circulation system for conveying the slurry, having the given concentration, discharged from said preparation tank back into said preparation tank;

~~wherein said control system is for suspending operation of said circulation system so as to stop the slurry discharged from said preparation tank from being conveyed back into said~~

~~preparation tank during a time period when the stock solution of slurry is not being diluted by the de-ionized water or chemical liquid, and~~

~~wherein said control system is for~~

(ii) ~~suspending the mixing of the stock solution of slurry with the de-ionized water or chemical solution during a time period when the stock solution of slurry is not being diluted by the de-ionized water or chemical liquid,~~

wherein the polishing apparatus includes turntables, and a said slurry feed pump is provided for each of the turntables.

17. (Cancelled)

18. (Currently Amended) ~~The slurry feeder according to claim 14, further~~ A slurry feeder comprising:

a slurry supply tank for holding slurry at a given concentration;

a slurry feed pipe connected to said slurry supply tank;

a slurry feed pump for pumping the slurry from said slurry supply tank to a polishing apparatus via said slurry feed pipe;

a preparation tank for having prepared therein slurry having the given concentration by mixing and diluting a stock solution of slurry with de-ionized water or a chemical liquid, said preparation tank being in fluid communication with said slurry supply tank so as to supply the slurry having the given concentration from said preparation tank to said slurry supply tank; ~~and~~

a circulation system for conveying the slurry, having the given concentration, discharged from said preparation tank back into said preparation ~~tank;~~ tank; and

a control system for

(i) suspending operation of said slurry feed pump during a time period when the slurry is not being supplied to the polishing apparatus and the polishing apparatus is performing a polishing operation,

~~wherein said control system is for~~

(ii) suspending operation of said circulation system so as to stop the slurry discharged from said preparation tank from being conveyed back into said preparation tank during a time period when the stock solution of slurry is not being diluted by the de-ionized water or chemical liquid, and

~~wherein said control system is for~~

(iii) suspending the mixing of the stock solution of slurry with the de-ionized water or chemical solution during a time period when the stock solution of slurry is not being diluted by the de-ionized water or chemical liquid.

19. (Previously Presented) The slurry feeder according to claim 18, wherein a portion of said slurry feed pipe is positioned within said slurry supply tank such that an inlet of said slurry feed pipe is spaced from a bottom of said slurry supply tank so as to prevent slurry agglomerate settled on the bottom of said slurry supply tank from entering into the inlet of said slurry feed pipe.

20. (Previously Presented) The slurry feeder according to claim 19, wherein the polishing apparatus includes turntables, and a said slurry feed pump is provided for each of the turntables.

21. (Currently Amended) ~~The slurry feeder according to claim 14~~ A slurry feeder comprising:
a slurry supply tank for holding slurry at a given concentration;
a slurry feed pipe connected to said slurry supply tank;
a slurry feed pump for pumping the slurry from said slurry supply tank to a polishing apparatus via said slurry feed pipe; and
a control system for suspending operation of said slurry feed pump during a time period when the slurry is not being supplied to the polishing apparatus and the polishing apparatus is performing a polishing operation, wherein

a portion of said slurry feed pipe is positioned within said slurry supply tank such that an inlet of said slurry feed pipe is spaced from a bottom of said slurry supply tank so as to prevent slurry agglomerate settled on the bottom of said slurry supply tank from entering into the inlet of said slurry feed pipe.

22. (Previously Presented) A slurry feeder for feeding slurry to a polishing apparatus, comprising:

a slurry supply tank for holding a slurry that includes polishing particles and is to be supplied to a polishing apparatus at a flow rate Q , the polishing particles having a sedimentation velocity V ,

wherein a horizontal sectional area of said slurry supply tank is less than Q/V .

Claims 23-25 (Cancelled)

26. (Currently Amended) ~~The polishing apparatus according to claim 25, wherein said slurry feeder further includes (i) A polishing apparatus comprising:~~

a polishing table;

a slurry feeder including

(i) a slurry supply tank for holding slurry at a given concentration,

(ii) a slurry feed pipe connected to said slurry supply tank,

(iii) a slurry feed pump for pumping the slurry from said slurry supply tank to said polishing table via said slurry feed pipe,

(iv) a preparation tank for having prepared therein slurry having the given concentration by mixing and diluting a stock solution of slurry with de-ionized water or a chemical liquid, said preparation tank being in fluid communication with said slurry supply tank so as to supply the slurry having the given concentration from said preparation tank to said slurry supply tank; and

~~(ii) a circulation system for conveying the slurry, having the given concentration, discharged from said preparation tank back into said preparation tank;
— wherein said control system is for suspending operation of said circulation system so as to stop the slurry discharged from said preparation tank from being conveyed back into said preparation tank during a time period when the stock solution of slurry is not being diluted by the de-ionized water or chemical liquid; and~~

(v) a control system for

(a) suspending operation of said slurry feed pump during a time period when the slurry is not being supplied to said polishing table and said polishing table is performing a polishing operation, and

(b) wherein said control system is for suspending the mixing of the stock solution of slurry with the de-ionized water or chemical solution during a time period when the stock solution of slurry is not being diluted by the de-ionized water or chemical liquid;

a slurry-return path for returning to said slurry supply tank slurry that is supplied from said slurry supply tank and not used by said polishing table; and

another polishing table,

wherein said slurry feeder further includes

(vi) another slurry feed pipe connected to said slurry supply tank, and

(vii) another slurry feed pump for pumping the slurry from said slurry supply tank to said another polishing table via said another slurry feed pipe.

27. (Currently Amended) ~~The polishing apparatus according to claim 23, wherein said slurry feeder further includes~~ A polishing apparatus comprising:

a polishing table; and

a slurry feeder including

(i) a slurry supply tank for holding slurry at a given concentration,
(ii) a slurry feed pipe connected to said slurry supply tank,
(iii) a slurry feed pump for pumping the slurry from said slurry supply tank to said
polishing table via said slurry feed pipe,

~~(i)~~(iv) a preparation tank for having prepared therein slurry having the given concentration by mixing and diluting a stock solution of slurry with de-ionized water or a chemical liquid, said preparation tank being in fluid communication with said slurry supply tank so as to supply the slurry having the given concentration from said preparation tank to said slurry supply tank, ~~tank,~~

~~(ii)~~(v) a circulation system for conveying the slurry, having the given concentration, discharged from said preparation tank back into said preparation tank, and

(vi) a control system for

(a) suspending operation of said slurry feed pump during a time period
when the slurry is not being supplied to said polishing table and said polishing table is
performing a polishing operation.

~~(b) wherein said control system is for suspending operation of said~~
circulation system so as to stop the slurry discharged from said preparation tank from being conveyed back into said preparation tank during a time period when the stock solution of slurry is not being diluted by the de-ionized water or chemical liquid, and

~~(c) wherein said control system is for suspending the mixing of the stock~~
solution of slurry with the de-ionized water or chemical solution during a time period when the stock solution of slurry is not being diluted by the de-ionized water or chemical liquid.

28. (Previously Presented) The polishing apparatus according to claim 27, wherein a portion of said slurry feed pipe is positioned within said slurry supply tank such that an inlet of said slurry feed pipe is spaced from a bottom of said slurry supply tank so as to prevent slurry agglomerate settled on the bottom of said slurry supply tank from entering into the inlet of said slurry feed pipe.

29. (Previously Presented) The polishing apparatus according to claim 28, further comprising:
another polishing table,
wherein said slurry feeder further includes
(i) another slurry feed pipe connected to said slurry supply tank, and
(ii) another slurry feed pump for pumping the slurry from said slurry supply tank to said another polishing table via said another slurry feed pipe.
30. (Currently Amended) ~~The polishing apparatus according to claim 23~~ A polishing apparatus comprising:
a polishing table; and
a slurry feeder including
(i) a slurry supply tank for holding slurry at a given concentration,
(ii) a slurry feed pipe connected to said slurry supply tank,
(iii) a slurry feed pump for pumping the slurry from said slurry supply tank to said polishing table via said slurry feed pipe, and
(iv) a control system for suspending operation of said slurry feed pump during a time period when the slurry is not being supplied to said polishing table and said polishing table is performing a polishing operation, wherein
a portion of said slurry feed pipe is positioned within said slurry supply tank such that an inlet of said slurry feed pipe is spaced from a bottom of said slurry supply tank so as to prevent slurry agglomerate settled on the bottom of said slurry supply tank from entering into the inlet of said slurry feed pipe.

31. (Previously Presented) A method of supplying a slurry to a polishing apparatus, comprising:
feeding, at a flow rate, from a slurry supply tank to a polishing apparatus a slurry including polishing particles, said polishing particles having a sedimentation velocity,

wherein said flow rate is such that a flow velocity of said slurry in said slurry supply tank is greater than said sedimentation velocity.